CURRENT LITERATURE.

A text-book of bacteriology.

AN EXCELLENT addition to the list of hand books covering the subject of bacteriology, available to the English speaking student, has recently been published by an American firm. It is a translation of the third edition of the admirable work by Fraenkel,[1] which has already been favorably received by European teachers. The author was for a long time associated with Dr. Robert Koch, being in charge of the general laboratory of the Hygienic Institute in Berlin. The translation has been well performed by Dr. J. H. Linsley, and the publishers have put the work into an attractive and seviceable form.

The larger part of the work is devoted to laboratory methods and to the discussion of specific forms of bacteria. After a brief chapter regarding the biology of bacteria, the methods of manipulation, separation and cultivation of bacteria are treated in a particularly clear and serviceable way through nearly one hundred pages. A chapter of considerable length is devoted to the relation of bacteria to animal diseases, including the questions of susceptibility and immunity. The remainder of the book, except a few pages upon the investigation of air, soil and water, and upon yeast and molds, is devoted to specific kinds of bacteria, largely pathogenic.

The work is clearly written, with few or no digressions, and with the needs of the student, particularly the medical student, kept constantly in view. Everything that would divert the attention of the learner is omitted, and so there is no discussion of disputed points, and no citation of literature. Another omission, for which a good excuse is not apparent, is the total absence of illustrations. This sometimes necessitates rather long and uncertain descriptions of apparatus, of which a much clearer idea could be obtained from a cut.

The work is specially designed to meet the needs of the medical student, and it is not surprising, therefore, to find that the author does not take up the general treatment of the bacteria from the botanical or purely scientific point of view. Yet it would scarcely have seemed out of place to have given some hints regarding the usefulness of bacteria in the processes of nature and certainly one could reasonably hope to find some reference to their role in producing diseases of plants. But within the limitations set by the author, the work is most admirably written, and will prove a serviceable book for the laboratory and class room.

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[1] FRAENKEL, CARL.—Text-book of bacteriology; third edition. Trans. by J. H. Linsley. pp. 376. roy. 8vo. New York, Wm. Wood & Co.: 1891.

The pyrenomycetous fungi.

ONE OF THE most valuable systematic works upon fungi, yet published in this country, has just appeared. It is a thick octavo volume, with descriptions of the species (about 2,500) of North American Pyrenomycetes, including the Perisporiaceæ and Hysteriaceæ, illustrated with forty-one carefully drawn plates. Messrs. Ellis and Everhart,[1] who are also the publishers, have performed the task of gathering, studying and arranging the species of this large order in a manner that must meet the general approval of botanists. The work is more than a compilation, although even that would have been a decided service in the present scattered state of our literature, for the authors have revised the descriptions where needed, added uniform spore and ascus measurements, and looked after the synonymy. The Perisporiaceæ were elaborated for the volume by Prof. T. J. Burrill. The plates were drawn by the late F. W. Anderson, and are very satisfactory.

The methods adopted in the citation of authority for names is of particular interest at the present time. "The name of the author first publishing any species has been retained, placed in parenthesis in case the species has been removed from the genus in which it was first placed. The name after the parenthesis has been omitted as too cumbersome and unnecessary." The name, however, may be easily supplied by the reader, if desired, as it appears in the synonymy which immediately follows. The authors add, that "the piratical practice of omitting the first name and substituting the second in its place can not be too strongly condemned." Anent which we have only to quote Paul's beatitude, "Happy is he that judgeth not himself in that which he approveth."

Probably no one could have undertaken the task of arranging the American species of this order who was so well equipped for the work, both by familiarity with the plants and abundance of material, as the present authors, and it is extremely gratifying that they have produced such a satisfactory volume. It will give a decided impetus to the observation of these fungi, which will doubtless early lead to copious additions to the present work.

The volume would have been made more convenient for ready reference, if a synoptical table of genera, divisional headlines to the pages, and an index of hosts had been provided. There is, however, an excellent species index prepared by W. C. Stevenson, Jr. The volume is substantially and neatly bound.

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[1] ELLIS J. B., and EVERHART, B. M.—The North American Pyrenomycetes: a contribution to mycologic botany. 8 vo. pp. 793. pl. 41. Vineland: Ellis and Everhart, 1892.—$8.00.

Two books on elementary botany.[1]

MISS NEWELL'S earlier volume treating of the vegetative parts of plants was favorably commented on in this journal at the time of its appearance several years ago. The present part treating of the flower and fruit is quite up to the mark of its predecessor; and as the subject it deals with is much more difficult to handle, that is to be taken as high commendation.

The book commences with a study of the bulbous plants that are commonly raised in the house, such as the tulip, hyacinth, crocus and snowdrop. From these the student is led to the earlier spring flowers, the forest and shade trees, the later spring and early summer flowers. In the treatment of each topic there is a combination of morphology and biology with taxonomy, which will strike most people as judicious, while the more radical will say that the taxonomy would better have been left for later study. The author is evidently escaping from the shackles of the older organography, as the mixture of the older and the more modern ideas and expressions indicates. To cite a single instance: On page 19 we are told that "Anthers are generally two-celled." On page 59: "Anthers are generally two-lobed, or as they are called, rather incorrectly, two-celled"; and in a footnote the real structure of the anther is explained. Errors are unusually rare and this alone is a strong commendation when so many of the elementary books seem to be written by persons who do not know whereof they speak. The plants themselves and the difficulties young pupils are most likely to encounter are evidently intimately known to the author. We do not know a book which is better adapted for its purpose than this one, and can most heartily recommend it to those whom its title addresses: "teachers, and mothers studying with their children." The illustrations are from the pen of Miss H. P. Symmes, and although there is something of technique to the desired in their execution, they exhibit much artistic feeling and essential accuracy.

THE OTHER BOOK is of wholly different sort, not only in the way in which the subject is treated, but also in its quality. Miss Aitken has essayed to produce an "elementary text book of botany for the use of schools."[2] It is divided into three parts, the first being designated "Outlines of the external morphology and classification of flowering plants"; the second, "Description of some typical non-flowering plants

[1] NEWELL, JANE H.—Outlines of lessons in botany for the use of teachers, or mothers studying with their children. Part II: Flower and fruit. 12mo. pp. vi. 393. Ginn & Co., Boston: 1892.

[2] AITKEN, EDITH.—Elementary text-book of botany for the use of schools. 12mo. pp. xiii. 248. figs. 131. Longmans, Green & Co. London: 1891.

or cryptogams; the third, "General description of flowering plants." Under the first part is given a very brief organography, which is not at all accurate, followed by descriptions of single members of the more important orders, from which pupils are supposed to derive a "typical example" for the purpose of "grouping exceptional forms around the central type, to which in memory one should always return." We very much doubt the wisdom of such a plan, and its execution leaves much to be desired.

In the two succeeding parts the author is endeavoring to follow the pattern of Huxley and Martin's Biology. As it seems to us, however, she has neglected the most essential feature of their plan, viz.: the preparation of specific directions for the "practical work" of the student. The headings of this sort in this book do not cover any directions that will be of use to the student. The "practical work" follows a description of the plant. Under Funaria for instance, one reads, "Examine specimens of Funaria, and verify the facts mentioned above." Here are others: "Cut sections of the stem and observe the different kinds of cells." "In older specimens examine the sporogonia." It is quite certain also that many of the directions, particularly in physiological parts, have not been put to the test; else their impracticability would have been discovered. The figures, except those from other works, are poorly drawn for photo-engraving and consequently very blotchy. Altogether, so far as American schools are concerned, Miss Aitken has contributed nothing of educational value.

Minor Notices.

IN A RECENT NUMBER of *Education* Professor Conway MacMillan has a vigorous criticism of the current methods of botanical instruction. Mr. MacMillan is radical and has at command an expressive vocabulary. The paper is worthy the attention of every teacher who can correct his own work thereby or who can influence others to do so. We should like to quote more than this sentence had we space: "The whole course in 'botany' is so planned that at its close the pupil may practice a few diagnoses, may apply a few binomial names and may gather a collection of pressed flowers which are pasted carefully in a synopsis book—such as certain misguided persons have been unable to refrain from publishing—and the whole unfortunate affair is dignified as a herbarium and is afterwards filed away upon some garret shelf, while its owner does not scruple, when questioned, to admit that he has 'had botany.' And he does not think very highly of it either."

IN THE PROCEEDINGS of the Biological Society of Washington for May 18, 1892, Mr. F. V. Coville describes, in advance of the full report of the collections of the Death's Valley expedition, several new species from that interesting region.

THE REPORT of the Royal Botanic Gardens at Trinidad for 1890 has been distributed. The report shows the work of the gardens in economic and scientific lines. Much attention is being given to the encouragement of the growing of fruits and fiber plants in the island. The illustrations are Messrs. Sprague's well-known "ink-photos" which almost equal the American "half-tone." The form of the report would be much improved by a change from folio to octavo. The Superintendent, Mr. J. H. Hart, working no doubt under many difficulties, is evidently active in promoting the interests of the garden.

OPEN LETTERS.

A botanical congress and nomenclature.

At a meeting of the Botanical Club of Washington, held April 23, 1892, a committee was appointed to consider and report upon the questions of botanical congress and nomenclature. At a special meeting called May 7, this committee presented the following report which was unanimously adopted by the club:

"Your committee, appointed to consider the questions of a botanical congress and botanical nomenclature, held a meeting on the second of May and prepared the following resolutions:

"*Resolved*, That, while favoring the final settlement of disputed questions by means of an international congress, we do not regard the present as an opportune time, but we recommend the reference of the question of plant nomenclature first to a representative body of American botanists.

"We suggest the consideration, by such body, of the following questions, among others: the law of priority; an initial date for genera; an initial date for species; the principle once a synonym always a synonym; what constitutes publication; the form of tribal and ordinal names; the method of citing authorities; capitalization.

"We recognize the Botanical Club of the A. A. A. S. as a representative body of American botanists and commend to that body for discussion and disposal the subject of nomenclature as set forth in these resolutions.

"Respectfully submitted,

LESTER F. WARD, GEO. VASEY, F. H. KNOWLTON, B. T. GALLOWAY, ERWIN F. SMITH, GEO. B. SUDWORTH, FREDERICK V. COVILLE. *Committee.*"

It was voted that a copy of these resolutions be communicated to the BOTANICAL GAZETTE, *Torrey Botanical Club*, *Garden and Forest* and *Science*.—L. H. DEWEY, SEC'Y, *Washington, D. C.*

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[1] Berichte der deutschen botanischen Gesellschaft, x. 27.